

## PATENT COOPERATION TREATY

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents  
United States Patent and Trademark  
Office  
Box PCT  
Washington, D.C.20231  
ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

Date of mailing (day/month/year)

30 September 1999 (30.09.99)

International application No.

PCT/CA99/00038

Applicant's or agent's file reference

3206-165/PAR/tw

International filing date (day/month/year)

18 January 1999 (18.01.99)

Priority date (day/month/year)

16 January 1998 (16.01.98)

Applicant

ROIFMAN, Chaim, M.

1. The designated Office is hereby notified of its election made:



in the demand filed with the International Preliminary Examining Authority on:

06 August 1999 (06.08.99)



in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was

was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

S. Mafla

Telephone No.: (41-22) 338.83.38

The demand must be filed with the competent International Preliminary Examining Authority or, if two or more Authorities are competent, with the one chosen by the applicant. The full name or two-letter code of that Authority may be indicated by the applicant on the line below:

IPEA/ \_\_\_\_\_

# PCT

## CHAPTER II

### DEMAND

under Article 31 of the Patent Cooperation Treaty:

The undersigned requests that the international application specified below be the subject of international preliminary examination according to the Patent Cooperation Treaty and hereby elects all eligible States (except where otherwise indicated).

For International Preliminary Examining Authority use only

Identification of IPEA	Date of receipt of DEMAND
------------------------	---------------------------

<b>Box No. I IDENTIFICATION OF THE INTERNATIONAL APPLICATION</b>		Applicant's or agent's file reference 3206-165/PAR
International application No. PCT/CA99/00038	International filing date (day/month/year) 18 January 1999 ( 18/01/1999 )	(Earliest) Priority date (day/month/year) 16 January 1998 ( 16/01/1998 )

Title of invention  
HUMAN LYMPHOID PROTEIN TYROSINE PHOSPHATASES

#### Box No. II APPLICANT(S)

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

HSC RESEARCH AND DEVELOPMENT LIMITED PARTNERSHIP  
555 University Avenue, Suite 5270  
Toronto, Ontario M5G 1X8  
CANADA

Telephone No.:

(416) 813-5982

Facsimile No.:

(416) 813-5085

Teleprinter No.:

State (that is, country) of nationality:

CA

State (that is, country) of residence:

CA

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

ROIFMAN, Chaim M.  
33 Christine Crescent  
North York, Ontario M2R 1A4  
CANADA

State (that is, country) of nationality:

CA

State (that is, country) of residence:

CA

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

State (that is, country) of nationality:

State (that is, country) of residence:

☐ Further applicants are indicated on a continuation sheet.

**Box No. III AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE**

The following person is ☒ agent ☐ common representative  
 and ☒ has been appointed earlier and represents the applicant(s) also for international preliminary examination.  
☐ is hereby appointed and any earlier appointment of (an) agent(s) /common representative is hereby revoked.  
☐ is hereby appointed, specifically for the procedure before the International Preliminary Examining Authority, in addition to the agent(s)/common representative appointed earlier.

Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)*

RAE, Patricia A.  
 SIM & McBURNEY  
 330 University Avenue, 6th Floor  
 Toronto, Ontario M5G 1R7  
 CANADA

Telephone No.:  
 (416) 595-1155

Facsimile No.:  
 (416) 595-1163

Teleprinter No.:

☐ Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

**Box No. IV BASIS FOR INTERNATIONAL PRELIMINARY EXAMINATION****Statement concerning amendments: \***

1. The applicant wishes the international preliminary examination to start on the basis of:

☒ the international application as originally filed.

the description ☐ as originally filed  
☐ as amended under Article 34

the claims ☐ as originally filed  
☐ as amended under Article 19 (together with any accompanying statement)  
☐ as amended under Article 34

the drawings ☐ as originally filed  
☐ as amended under Article 34

2. ☐ The applicant wishes any amendment to the claims under Article 19 to be considered as reversed.  
 3. ☐ The applicant wishes the start of the international preliminary examination to be postponed until the expiration of 20 months from the priority date unless the International Preliminary Examining Authority receives a copy of any amendments made under Article 19 or a notice from the applicant that he does not wish to make such amendments (Rule 69.1(d)). *(This check-box may be marked only where the time limit under Article 19 has not yet expired.)*

\* Where no check-box is marked, international preliminary examination will start on the basis of the international application as originally filed or, where a copy of amendments to the claims under Article 19 and/or amendments of the international application under Article 34 are received by the International Preliminary Examining Authority before it has begun to draw up a written opinion or the international preliminary examination report, as so amended.

**Language for the purposes of international preliminary examination: English**

- ☒ which is the language in which the international application was filed.  
☐ which is the language of a translation furnished for the purposes of international search.  
☐ which is the language of publication of the international application.  
☐ which is the language of the translation (to be) furnished for the purposes of international preliminary examination.

**Box No. V ELECTION OF STATES**

The applicant hereby elects all eligible States *(that is, all States which have been designated and which are bound by Chapter II of the PCT)*

excluding the following States which the applicant wishes not to elect:

**Box No. VI CHECK LIST**

The demand is accompanied by the following elements, in the language referred to in Box No. IV, for the purposes of international preliminary examination:

			For International Preliminary Examining Authority use only	
			received	not received
1.	translation of international application	sheets	<input type="checkbox"/>	<input type="checkbox"/>
2.	amendments under Article 34	sheets	<input type="checkbox"/>	<input type="checkbox"/>
3.	copy (or where required, translation) of amendments under Article 19	sheets	<input type="checkbox"/>	<input type="checkbox"/>
4.	copy (or, where required, translation) of statement under Article 19	sheets	<input type="checkbox"/>	<input type="checkbox"/>
5.	letter	sheets	<input type="checkbox"/>	<input type="checkbox"/>
6.	other ( <i>specify</i> )	sheets	<input type="checkbox"/>	<input type="checkbox"/>

The demand is also accompanied by the item(s) marked below:

- |  |   |
|--|---|
| 1. <input checked="" type="checkbox"/> fee calculation sheet                             | 4. <input type="checkbox"/> statement explaining lack of signature                                  |
| 2. <input type="checkbox"/> separate signed power of attorney                            | 5. <input type="checkbox"/> nucleotide and or amino acid sequence listing in computer readable form |
| 3. <input type="checkbox"/> copy of general power of attorney; reference number, if any: | 6. <input type="checkbox"/> other ( <i>specify</i> ):   |

**Box No. VII SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE**

*Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the demand).*

RAE, Patricia A.  
SIM & McBURNEY

For International Preliminary Examining Authority use only

1. Date of actual receipt of DEMAND:

2. Adjusted date of receipt of demand due to CORRECTIONS under Rule 60.1(b):

3. ☐ The date of receipt of the demand is AFTER the expiration of 19 months from the priority date and item 4 or 5, below, does not apply. ☐ The applicant has been informed accordingly.

4. ☐ The date of receipt of the demand is WITHIN the period of 19 months from the priority date as extended by virtue of Rule 80.5.

5. ☐ Although the date of receipt of the demand is after the expiration of 19 months from the priority date, the delay in arrival is EXCUSED pursuant to Rule 82.

For International Bureau use only

Demand received from IPEA on:

## PCT

## FEE CALCULATION SHEET

Annex to the Demand for international preliminary examination

International application No. <b>PCT/CA99/00038</b>	For International Preliminary Examining Authority use only	
Applicant's or agent's file reference <b>3206-165/PAR</b>	Date stamp of the IPEA	
Applicant <b>HSC RESEARCH AND DEVELOPMENT LIMITED PARTNERSHIP and ROIFMAN</b>		
<b>Calculation of prescribed fees</b>		
1. Preliminary examination fee .....	<b>2,998.29</b>	<div style="border: 1px solid black; width: 20px; height: 15px; display: inline-block; text-align: center; line-height: 15px;">P</div>
2. Handling fee <i>(Applicants from certain States are entitled to a reduction of 75% of the handling fee. Where the applicant is (or all applicants are) so entitled, the amount to be entered at H is 25% of the handling fee.)</i> .....	<b>289.46</b>	<div style="border: 1px solid black; width: 20px; height: 15px; display: inline-block; text-align: center; line-height: 15px;">H</div>
3. Total of prescribed fees Add the amounts entered at P and H and enter total in the TOTAL box .....	<div style="border: 1px solid black; width: 150px; height: 25px; display: inline-block; text-align: center;"> <b>3,287.75</b> </div>	
<div style="border: 1px solid black; width: 150px; height: 25px; display: inline-block; text-align: center;"> <b>TOTAL</b> </div>		
<b>Mode of Payment</b>		
<input type="checkbox"/> authorization to charge deposit account with the IPEA (see below)	<input type="checkbox"/> cash	
<input type="checkbox"/> cheque	<input type="checkbox"/> revenue stamps	
<input type="checkbox"/> postal money order	<input type="checkbox"/> coupons	
<input checked="" type="checkbox"/> bank draft	<input type="checkbox"/> other (specify):	
<b>Deposit Account Authorization</b> <i>(this mode of payment may not be available at all IPEAs)</i>		
The IPEA/ _____ <input type="checkbox"/> is hereby authorized to charge the total fees indicated above to my deposit account.		
<input type="checkbox"/> <i>(this check-box may be marked only if the conditions for deposit accounts of the IPEA so permit)</i> is hereby authorized to charge any deficiency or credit any overpayment in the total fees indicated above to my deposit account.		
Deposit Account Number _____	Date (day/month/year) _____	Signature _____

# PCT

## REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

For receiving Office use only

International Application No.

International Filing Date

Name of receiving Office and "PCT International Application"

Applicant's or agent's file reference (if desired) (12 characters maximum) 3206-165/PAR/tw

**Box No. I TITLE OF INVENTION**  
HUMAN LYMPHOID PROTEIN TYROSINE PHOSPHATASES

**Box No. II APPLICANT**

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

HSC RESEARCH AND DEVELOPMENT LIMITED PARTNERSHIP  
555 University Avenue  
Suite 5270  
Toronto, Ontario  
M5G 1X8 Canada

☐ This person is also inventor.

Telephone No.  
(416) 813-5982

Facsimile No.  
(416) 813-7163

Teleprinter No.

State (that is, country) of nationality:  
CA

State (that is, country) of residence:  
CA

This person is applicant for the purposes of: ☐ all designated States ☒ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box

**Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)**

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

ROIFMAN, Chaim M.  
33 Christine Crescent  
North York, Ontario  
M2R 1A4 Canada

This person is:

☐ applicant only

☒ applicant and inventor

☐ inventor only (If this check-box is marked, do not fill in below.)

State (that is, country) of nationality:  
CA

State (that is, country) of residence:  
CA

This person is applicant for the purposes of: ☐ all designated States ☐ all designated States except the United States of America ☒ the United States of America only ☐ the States indicated in the Supplemental Box

☐ Further applicants and/or (further) inventors are indicated on a continuation sheet.

**Box No. IV AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE**

The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as:

☒ agent ☐ common representative

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

RAE, Patricia A. (Dr.)  
SIM & McBURNEY  
330 University Avenue  
6th Floor  
Toronto, Ontario  
M5G 1R7 Canada

Telephone No.  
(416) 595-1155

Facsimile No.  
(416) 595-1163

Teleprinter No.

☐ Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

**Box No.V DESIGNATION OF STATES**

The following designations are hereby made under Rule 4.9(a) (mark the applicable check-boxes; at least one must be marked):

**Regional Patent**

- ☒ **AP ARIPO Patent:** GH Ghana, GM Gambia, KE Kenya, LS Lesotho, MW Malawi, SD Sudan, SZ Swaziland, UG Uganda, ZW Zimbabwe, and any other State which is a Contracting State of the Harare Protocol and of the PCT
- ☒ **EA Eurasian Patent:** AM Armenia, AZ Azerbaijan, BY Belarus, KG Kyrgyzstan, KZ Kazakhstan, MD Republic of Moldova, RU Russian Federation, TJ Tajikistan, TM Turkmenistan, and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT
- ☒ **EP European Patent:** AT Austria, BE Belgium, CH and LI Switzerland and Liechtenstein, CY Cyprus, DE Germany, DK Denmark, ES Spain, FI Finland, FR France, GB United Kingdom, GR Greece, IE Ireland, IT Italy, LU Luxembourg, MC Monaco, NL Netherlands, PT Portugal, SE Sweden, and any other State which is a Contracting State of the European Patent Convention and of the PCT
- ☒ **OA OAPI Patent:** BF Burkina Faso, BJ Benin, CF Central African Republic, CG Congo, CI Côte d'Ivoire, CM Cameroon, GA Gabon, GN Guinea, GW Guinea-Bissau, ML Mali, MR Mauritania, NE Niger, SN Senegal, TD Chad, TG Togo, and any other State which is a member State of OAPI and a Contracting State of the PCT (if other kind of protection or treatment desired, specify on dotted line) .....

**National Patent (if other kind of protection or treatment desired, specify on dotted line):**

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> AL Albania .....                               | <input checked="" type="checkbox"/> LS Lesotho .....                                   |
| <input checked="" type="checkbox"/> AM Armenia .....                               | <input checked="" type="checkbox"/> LT Lithuania .....                                 |
| <input checked="" type="checkbox"/> AT Austria .....                               | <input checked="" type="checkbox"/> LU Luxembourg .....                                |
| <input checked="" type="checkbox"/> AU Australia .....                             | <input checked="" type="checkbox"/> LV Latvia .....                                    |
| <input checked="" type="checkbox"/> AZ Azerbaijan .....                            | <input checked="" type="checkbox"/> MD Republic of Moldova .....                       |
| <input checked="" type="checkbox"/> BA Bosnia and Herzegovina .....                | <input checked="" type="checkbox"/> MG Madagascar .....                                |
| <input checked="" type="checkbox"/> BB Barbados .....                              | <input checked="" type="checkbox"/> MK The former Yugoslav Republic of Macedonia ..... |
| <input checked="" type="checkbox"/> BG Bulgaria .....                              | <input checked="" type="checkbox"/> MN Mongolia .....                                  |
| <input checked="" type="checkbox"/> BR Brazil .....                                | <input checked="" type="checkbox"/> MW Malawi .....                                    |
| <input checked="" type="checkbox"/> BY Belarus .....                               | <input checked="" type="checkbox"/> MX Mexico .....                                    |
| <input checked="" type="checkbox"/> CA Canada .....                                | <input checked="" type="checkbox"/> NO Norway .....                                    |
| <input checked="" type="checkbox"/> CH and LI Switzerland and Liechtenstein .....  | <input checked="" type="checkbox"/> NZ New Zealand .....                               |
| <input checked="" type="checkbox"/> CN China .....                                 | <input checked="" type="checkbox"/> PL Poland .....                                    |
| <input checked="" type="checkbox"/> CU Cuba .....                                  | <input checked="" type="checkbox"/> PT Portugal .....                                  |
| <input checked="" type="checkbox"/> CZ Czech Republic .....                        | <input checked="" type="checkbox"/> RO Romania .....                                   |
| <input checked="" type="checkbox"/> DE Germany .....                               | <input checked="" type="checkbox"/> RU Russian Federation .....                        |
| <input checked="" type="checkbox"/> DK Denmark .....                               | <input checked="" type="checkbox"/> SD Sudan .....                                     |
| <input checked="" type="checkbox"/> EE Estonia .....                               | <input checked="" type="checkbox"/> SE Sweden .....                                    |
| <input checked="" type="checkbox"/> ES Spain .....                                 | <input checked="" type="checkbox"/> SG Singapore .....                                 |
| <input checked="" type="checkbox"/> FI Finland .....                               | <input checked="" type="checkbox"/> SI Slovenia .....                                  |
| <input checked="" type="checkbox"/> GB United Kingdom .....                        | <input checked="" type="checkbox"/> SK Slovakia .....                                  |
| <input checked="" type="checkbox"/> GD Grenada .....                               | <input checked="" type="checkbox"/> SL Sierra Leone .....                              |
| <input checked="" type="checkbox"/> GE Georgia .....                               | <input checked="" type="checkbox"/> TJ Tajikistan .....                                |
| <input checked="" type="checkbox"/> GH Ghana .....                                 | <input checked="" type="checkbox"/> TM Turkmenistan .....                              |
| <input checked="" type="checkbox"/> GM Gambia .....                                | <input checked="" type="checkbox"/> TR Turkey .....                                    |
| <input checked="" type="checkbox"/> HR Croatia .....                               | <input checked="" type="checkbox"/> TT Trinidad and Tobago .....                       |
| <input checked="" type="checkbox"/> HU Hungary .....                               | <input checked="" type="checkbox"/> UA Ukraine .....                                   |
| <input checked="" type="checkbox"/> ID Indonesia .....                             | <input checked="" type="checkbox"/> UG Uganda .....                                    |
| <input checked="" type="checkbox"/> IL Israel .....                                | <input checked="" type="checkbox"/> US United States of America .....                  |
| <input checked="" type="checkbox"/> IN India .....                                 | <input checked="" type="checkbox"/> UZ Uzbekistan .....                                |
| <input checked="" type="checkbox"/> IS Iceland .....                               | <input checked="" type="checkbox"/> VN Viet Nam .....                                  |
| <input checked="" type="checkbox"/> JP Japan .....                                 | <input checked="" type="checkbox"/> YU Yugoslavia .....                                |
| <input checked="" type="checkbox"/> KE Kenya .....                                 | <input checked="" type="checkbox"/> ZW Zimbabwe .....                                  |
| <input checked="" type="checkbox"/> KG Kyrgyzstan .....                            |  |
| <input checked="" type="checkbox"/> KP Democratic People's Republic of Korea ..... |  |
| <input checked="" type="checkbox"/> KR Republic of Korea .....                     |  |
| <input checked="" type="checkbox"/> KZ Kazakhstan .....                            |  |
| <input checked="" type="checkbox"/> LC Saint Lucia .....                           |  |
| <input checked="" type="checkbox"/> LK Sri Lanka .....                             |  |
| <input checked="" type="checkbox"/> LR Liberia .....                               |  |

Check-boxes reserved for designating States (for the purposes of a national patent) which have become party to the PCT after issuance of this sheet:

- ☐ .....
- ☐ .....
- ☐ .....

**Precautionary Designation Statement:** In addition to the designations made above, the applicant also makes under Rule 4.9(b) all other designations which would be permitted under the PCT except any designation(s) indicated in the Supplemental Box as being excluded from the scope of this statement. The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit. (Confirmation of a designation consists of the filing of a notice specifying that designation and the payment of the designation and confirmation fees. Confirmation must reach the receiving Office within the 15-month time limit.)

<b>Box No. VI PRIORITY CLAIM</b>		<input type="checkbox"/> Further priority claims are indicated in the Supplemental Box.		
Filing date of earlier application (day/month/year)	Number of earlier application	Where earlier application is:		
		national application: country	regional application:* regional Office	international application: receiving Office
item (1) 16 January 1998 (16/01/98)	2,220,853	CA		
item (2)				
item (3)				

☒ The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) (only if the earlier application was filed with the Office which for the purposes of the present international application is the receiving Office) identified above as item(s): 1

\* Where the earlier application is an ARIPO application, it is mandatory to indicate in the Supplemental Box at least one country party to the Paris Convention for the Protection of Industrial Property for which that earlier application was filed (Rule 4.10(b)(ii)). See Supplemental Box.

**Box No. VII INTERNATIONAL SEARCHING AUTHORITY**

Choice of International Searching Authority (ISA)  
(if two or more International Searching Authorities are competent to carry out the international search, indicate the Authority chosen; the two-letter code may be used):

ISA/

Request to use results of earlier search; reference to that search (if an earlier search has been carried out by or requested from the International Searching Authority):

Date (day/month/year)      Number      Country (or regional Office)

**Box No. VIII CHECK LIST: LANGUAGE OF FILING**

This international application contains the following number of sheets:

request	:	3
description (excluding sequence listing part)	:	45
claims	:	5
abstract	:	1
drawings	:	15
sequence listing part of description	:	
<b>Total number of sheets</b>	:	<b>69</b>

This international application is accompanied by the item(s) marked below:

1. ☒ fee calculation sheet
2. ☐ separate signed power of attorney
3. ☐ copy of general power of attorney; reference number, if any:
4. ☐ statement explaining lack of signature
5. ☐ priority document(s) identified in Box No. VI as item(s):
6. ☐ translation of international application into (language):
7. ☐ separate indications concerning deposited microorganism or other biological material
8. ☐ nucleotide and/or amino acid sequence listing in computer readable form
9. ☐ other (specify):

Figure of the drawings which  
should accompany the abstract:

1

Language of filing of the  
international application:

English

**Box No. IX SIGNATURE OF APPLICANT OR AGENT**

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).



RAE, Patricia A. (Dr.)  
SIM & MCBURNEY

For receiving Office use only		2. Drawings:  <input type="checkbox"/> received:  <input type="checkbox"/> not received:
1. Date of actual receipt of the purported international application:		
3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:		
4. Date of timely receipt of the required corrections under PCT Article 11(2):		
5. International Searching Authority (if two or more are competent): ISA/	6. <input type="checkbox"/> Transmittal of search copy delayed until search fee is paid	

**For International Bureau use only**

Date of receipt of the record copy  
by the International Bureau:



## PCT

## FEE CALCULATION SHEET

Annex to the Request

For receiving Office use only

International application No.

Date stamp of the receiving Office

Applicant's or agent's  
file reference

3206-165/PAR/tw

Applicant

HSC RESEARCH AND DEVELOPMENT LIMITED PARTNERSHIP et al.

## CALCULATION OF PRESCRIBED FEES

1. TRANSMITTAL FEE ..... 200.00 T

2. SEARCH FEE ..... 2,088.00 S

International search to be carried out by

(If two or more International Searching Authorities are competent in relation to the international application, indicate the name of the Authority which is chosen to carry out the international search.)

3. INTERNATIONAL FEE

## Basic Fee

The international application contains 74 sheets.

first 30 sheets ..... 721.00 b<sub>1</sub>

44	x	\$17.00	=	748.00	b <sub>2</sub>
remaining sheets		additional amount			

Add amounts entered at b<sub>1</sub> and b<sub>2</sub> and enter total at B ..... 1,469.00 B

## Designation Fees

The international application contains ALL designations.

11	x	166.00	=	1,826.00	D
number of designation fees payable (maximum 11)		amount of designation fee			

Add amounts entered at B and D and enter total at I ..... 3,295.00 I

(Applicants from certain States are entitled to a reduction of 75% of the international fee. Where the applicant is (or all applicants are) so entitled, the total to be entered at I is 25% of the sum of the amounts entered at B and D.)

4. FEE FOR PRIORITY DOCUMENT (if applicable) ..... 35.00 P

5. TOTAL FEES PAYABLE

Add amounts entered at T, S, I and P, and enter total in the TOTAL box

5,618.00

TOTAL

☐ The designation fees are not paid at this time.

## MODE OF PAYMENT

☐ authorization to charge  
deposit account (see below)☐ bank draft☐ coupons☒ cheque☐ cash☐ other (specify):☐ postal money order☐ revenue stamps

## DEPOSIT ACCOUNT AUTHORIZATION (this mode of payment may not be available at all receiving Offices)

The RO/ ..... ☐ is hereby authorized to charge the total fees indicated above to my deposit account.☒ is hereby authorized to charge any deficiency or credit any overpayment in the total fees indicated above to my deposit account.☐ is hereby authorized to charge the fee for preparation and transmittal of the priority document to the International Bureau of WIPO to my deposit account.

16-01-99

Deposit Account Number

Date (day/month/year)

Signature

Patricia Lee

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

## PCT

To:

RAE. Patricia A.  
Sim & McBurney  
330 University Avenue  
6th Floor  
Suite 600  
Toronto, Ontario M5G 1R7  
CANADA

**RECEIVED**

**APR 25 2000**

**SIM & MCBURNEY  
SIM, HUGHES, ASHTON & MCKAY**

NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT

(PCT Rule 71.1)

Date of mailing  
(day/month/year)

**18.04.00**

Applicant's or agent's file reference  
3206-165/PAR/tw

**IMPORTANT NOTIFICATION**

International application No.  
PCT/CA99/00038

International filing date (day/month/year)  
18/01/1999

Priority date (day/month/year)  
16/01/1998

Applicant

HSC RESEARCH AND DEVELOPMENT LIMITED P. ....et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

#### 4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/



European Patent Office  
D-80298 Munich  
Tel. +49 89 2399 - 0 Tx: 523656 epmu d  
Fax: +49 89 2399 - 4465

Authorized officer

Vullo, C

Tel. +49 89 2399-8061




# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>3206-165/PAR/tw</b>	<b>FOR FURTHER ACTION</b> <small>See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)</small>	
International application No. <b>PCT/CA99/00038</b>	International filing date (day/month/year) <b>18/01/1999</b>	Priority date (day/month/year) <b>16/01/1998</b>
International Patent Classification (IPC) or national classification and IPC <b>C12N15/55</b>		
Applicant <b>HSC RESEARCH AND DEVELOPMENT LIMITED P. ....et al.</b>		
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 7 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of    sheets.</p>		
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li>I    <input checked="" type="checkbox"/> Basis of the report</li> <li>II   <input checked="" type="checkbox"/> Priority</li> <li>III   <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li>IV   <input type="checkbox"/> Lack of unity of invention</li> <li>V    <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li>VI   <input checked="" type="checkbox"/> Certain documents cited</li> <li>VII   <input type="checkbox"/> Certain defects in the international application</li> <li>VIII   <input checked="" type="checkbox"/> Certain observations on the international application</li> </ul>		
Date of submission of the demand  <b>06/08/1999</b>	Date of completion of this report  <b>18.04.00</b>	
Name and mailing address of the international preliminary examining authority:   <b>European Patent Office</b> <b>D-80298 Munich</b> <b>Tel. +49 89 2399 - 0 Tx: 523656 epmu d</b> <b>Fax: +49 89 2399 - 4465</b>	Authorized officer  <b>Zellner, E</b>  Telephone No. <b>+49 89 2399 8427</b>	



**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/CA99/00038

**I. Basis of the report**

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

**Description, pages:**

1-51 as originally filed

**Claims, No.:**

1-39 as originally filed

**Drawings, sheets:**

1-18 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:  
☐ the claims, Nos.:  
☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

**II. Priority**

1. ☐ This report has been established as if no priority had been claimed due to the failure to furnish within the prescribed time limit the requested:
- ☐ copy of the earlier application whose priority has been claimed.
  - ☐ translation of the earlier application whose priority has been claimed.
2. ☐ This report has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid.

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/CA99/00038

2. ☐ This report has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid.

Thus for the purposes of this report, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

**see separate sheet**

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Yes:	Claims	4,7-9,14,15,17,18,19-30
	No:	Claims	1-3,5,6,10-13,16,20-27
Inventive step (IS)	Yes:	Claims	4,15,31,32
	No:	Claims	1-3,5-14,16-30,33-39
Industrial applicability (IA)	Yes:	Claims	1-39
	No:	Claims	

### 2. Citations and explanations

**see separate sheet**

## VI. Certain documents cited

### 1. Certain published documents (Rule 70.10)

and / or

### 2. Non-written disclosures (Rule 70.9)

**see separate sheet**

## VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**see separate sheet**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

---

International application No. PCT/CA99/00038

Reference is made to the following documents:

- D1: MATTHEWS R. J. ET AL.: 'Characterization of haematopoietic intracellular protein tyrosine phosphatases: Description of a phosphatase containing an SH2 domain and another enriched in proline-, glutamic acid-, serine-, and threonine-rich sequences.' MOLECULAR AND CELLULAR BIOLOGY, vol. 12, no. 5, 1992, pages 2396-2405, XP002076841
- D2: WO 97 35019 A (GENENTECH INC) 25 September 1997
- D3: WO 98 49317 A (PELES ELIOR ;ONRUST SUSAN (NZ); CLARY DOUGLAS (US); HUI TERANCE H) 5 November 1998

Item II

The present application has a valid priority date, since the priority document comprises Tables 1-4 representing the nucleic acid and amino acid sequences of Lyp1 and Lyp2.

Item V

1. The present claims disclose DNAs encoding two human intracellular tyrosine phosphatases (Lyp. 1 and Lyp2 being an isoform of Lyp1 as defined in Tables 1-4) the derived proteins, antibodies and methods.  
D1 describes the nucleotide and predicted amino acid sequence of a murine intracellular protein tyrosine phosphatase (PTPase) i.e. PEP(Fig. 3, page 2041, left column, paragraph 2 - right column, paragraph 1). Said PEP exhibits 70.4% identity with Lyp1 and 68.5% with Lyp2 protein.  
In Claim 5 item e) of the present application the stringency conditions are not precisely defined. Therefore related DNA such as in D1 could hybridize with the DNA of Claim 5 e).  
Therefore Claim 5 is objected to under Article 33 (2) PCT.

As pointed out above the identity of Lyp1 and PEP of D1 is 70.4%. Therefore

Claims 6 and 16 are also attacked under Article 33(2) PCT.

The nucleotide sequence of Fig. 3 in D1 comprises at least 10 and more than 20 consecutive nucleotides being identical to the nucleotide sequence of SEQ. ID. No. 1.

The same applies to SEQ. ID. No. 3.

Therefore Claims 10 and 20 are not novel.

The PEP protein of D1 possesses a Lyp domain such as the PTPase domain (page 2399, right column, paragraph 2) said protein also comprises antigenic determinants of a Lyp protein.

Therefore Claims 21 and 22 are not novel.

2. In D2 SEQ ID. No. 18 has 88.5% overlap in a peptide stretch of 297 amino acids. Said SEQ ID. No. 18 also represents a tyrosine phosphatase. Therefore Claims 10-12, 20-27 are objected to under lack of novelty in view of D2 (page 42-43, page 2, line 37 - page 3, line 18, page 9, line 3 - page 10, line 10, page 11, line 5).
3. Claims 7-9 and 17-19 appear to be novel since the overall identity of Lyp 2 (Table 4) and the PEPs of the prior art is less than 70 % and about 70% for Lyp1. However, in view of the high similarity said claims are not sufficiently distinguished from the prior art documents D1 and D2. A few mutations of the sequences of D1 or D2 could render them more similar to the sequences of the present claims. Therefore said claims are objected to under lack of inventive step.
4. Independent Claims 1, 2, 3, 13, are not defined by a particular sequence of the lyp1, lyp2 genes or the Lyp1 and Lyp2 proteins. Taking Tables 1-4 as a definition of the Lyp1 and Lyp 2 proteins and their coding genes said claims are novel and inventive in view of the prior art documents cited. As discussed above D1 and D2 describe similar Lyp proteins but not identical ones. Therefore the problem of the present invention can be defined as the provision of further Lyp proteins and their encoding genes. The solution is represented by the sequence data of Tables 1-4 (Claims 4, 15, 31 and 32). None of the documents cited in the prior provides evidence for the particular genes and proteins of the present application.

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/CA99/00038

Therefore, claims 4, 15, 31 and 32 are novel and inventive.

However, if Lyp1 and Lyp 2 are interpreted in a broader sense such as not exhibiting the particular sequences of Tables 1-4, but merely similar proteins and genes, then D1 and D2 are novelty attacking against said claims.

Independent Claims 28-30, 33-39 also restricted to particular Lyp gene or protein do not involve an inventive step, since the features disclosed are considered as obvious for a skilled person. Thus said claims are derivable from D1 and D2 in view of the common general knowledge of the skilled person.

The same applies to Claims 2,3 and 14.

Item VI

Certain published documents (Rule 70.10)

Application No Patent No	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
WO-A-9 849 317	5.11.98	27.04.98	28.04.97

SEQ. ID. NO. 1 of WO-A- 9 849 317 is more than 99.4% identical the sequences of the present application. Therefore said document is novelty destroying against Claims 1-39.

Item VIII

1. The formulation "splice variant" is not defined and thus includes inactive variants. Said inactive variants do not have the essential features of the invention such as having tyrosine phosphatase activity. Therefore said formulation is not unambiguously clear (Art. 6 PCT).
2. The stringency conditions are not defined in Claim 5 and thus said claim is open for interpretation (Art. 6 PCT).
3. Independent Claims 1, 13, 21, 22, 23, 28-30, 33-39 are not defined by the true



**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/CA99/00038

technical features of the invention such as the amino acid and the nucleotide sequence. Therefore the claimed Lyp proteins and genes are open for interpretation (see Guidelines C III 4.4, 4.7, 4.7a)

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 3206-165/PAR/tw	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/CA99/00038	International filing date (day/month/year) 18/01/1999	Priority date (day/month/year) 16/01/1998
International Patent Classification (IPC) or national classification and IPC C12N15/55		
Applicant HSC RESEARCH AND DEVELOPMENT LIMITED P. ....et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 7 sheets, including this cover sheet.

- ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☒ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☒ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand  06/08/1999	Date of completion of this report  18.04.00
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer  Zellner, E  Telephone No. +49 89 2399 8427 

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/CA99/00038

## I. Basis of the report

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

### Description, pages:

1-51 as originally filed

### Claims, No.:

1-39 as originally filed

### Drawings, sheets:

1-18 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

## II. Priority

1. ☐ This report has been established as if no priority had been claimed due to the failure to furnish within the prescribed time limit the requested:
- ☐ copy of the earlier application whose priority has been claimed.
  - ☐ translation of the earlier application whose priority has been claimed.
2. ☐ This report has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid.

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/CA99/00038

2. ☐ This report has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid.

Thus for the purposes of this report, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

**see separate sheet**

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes:	Claims	4,7-9,14,15,17,18,19-30
	No:	Claims	1-3,5,6,10-13,16,20-27
Inventive step (IS)	Yes:	Claims	4,15,31,32
	No:	Claims	1-3,5-14,16-30,33-39
Industrial applicability (IA)	Yes:	Claims	1-39
	No:	Claims	

2. Citations and explanations

**see separate sheet**

**VI. Certain documents cited**

1. Certain published documents (Rule 70.10)

and / or

2. Non-written disclosures (Rule 70.9)

**see separate sheet**

**VIII. Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**see separate sheet**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/CA99/00038

Reference is made to the following documents:

- D1: MATTHEWS R. J. ET AL.: 'Characterization of haematopoietic intracellular protein tyrosine phosphatases: Description of a phosphatase containing an SH2 domain and another enriched in proline-, glutamic acid-, serine-, and threonine-rich sequences.' MOLECULAR AND CELLULAR BIOLOGY, vol. 12, no. 5, 1992, pages 2396-2405, XP002076841
- D2: WO 97 35019 A (GENENTECH INC) 25 September 1997
- D3: WO 98 49317 A (PELES ELIOR ;ONRUST SUSAN (NZ); CLARY DOUGLAS (US); HUI TERANCE H) 5 November 1998

**Item II**

The present application has a valid priority date, since the priority document comprises Tables 1-4 representing the nucleic acid and amino acid sequences of Lyp1 and Lyp2.

**Item V**

1. The present claims disclose DNAs encoding two human intracellular tyrosine phosphatases (Lyp 1 and Lyp2 being an isoform of Lyp1 as defined in Tables 1-4) the derived proteins, antibodies and methods.  
D1 describes the nucleotide and predicted amino acid sequence of a murine intracellular protein tyrosine phosphatase (PTPase) i.e. PEP (Fig. 3, page 2041, left column, paragraph 2 - right column, paragraph 1). Said PEP exhibits 70.4% identity with Lyp1 and 68.5% with Lyp2 protein.  
In Claim 5 item e) of the present application the stringency conditions are not precisely defined. Therefore related DNA such as in D1 could hybridize with the DNA of Claim 5 e).  
Therefore Claim 5 is objected to under Article 33 (2) PCT.

As pointed out above the identity of Lyp1 and PEP of D1 is 70.4%. Therefore

Claims 6 and 16 are also attacked under Article 33(2) PCT.

The nucleotide sequence of Fig. 3 in D1 comprises at least 10 and more than 20 consecutive nucleotides being identical to the nucleotide sequence of SEQ. ID. No. 1.

The same applies to SEQ. ID. No. 3.

Therefore Claims 10 and 20 are not novel.

The PEP protein of D1 possesses a Lyp domain such as the PTPase domain (page 2399, right column, paragraph 2) said protein also comprises antigenic determinants of a Lyp protein.

Therefore Claims 21 and 22 are not novel.

2. In D2 SEQ ID. No. 18 has 88.5% overlap in a peptide stretch of 297 amino acids. Said SEQ ID. No. 18 also represents a tyrosine phosphatase. Therefore Claims 10-12, 20-27 are objected to under lack of novelty in view of D2 (page 42-43, page 2, line 37 - page 3, line 18, page 9, line 3 - page 10, line 10, page 11, line 5).
3. Claims 7-9 and 17-19 appear to be novel since the overall identity of Lyp 2 (Table 4) and the PEPs of the prior art is less than 70 % and about 70% for Lyp1. However, in view of the high similarity said claims are not sufficiently distinguished from the prior art documents D1 and D2. A few mutations of the sequences of D1 or D2 could render them more similar to the sequences of the present claims. Therefore said claims are objected to under lack of inventive step.
4. Independent Claims 1, 2, 3, 13, are not defined by a particular sequence of the lyp1, lyp2 genes or the Lyp1 and Lyp2 proteins. Taking Tables 1-4 as a definition of the Lyp1 and Lyp 2 proteins and their coding genes said claims are novel and inventive in view of the prior art documents cited. As discussed above D1 and D2 describe similar Lyp proteins but not identical ones. Therefore the problem of the present invention can be defined as the provision of further Lyp proteins and their encoding genes. The solution is represented by the sequence data of Tables 1-4 (Claims 4, 15, 31 and 32). None of the documents cited in the prior provides evidence for the particular genes and proteins of the present application.

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/CA99/00038

Therefore, claims 4, 15, 31 and 32 are novel and inventive.

However, if Lyp1 and Lyp 2 are interpreted in a broader sense such as not exhibiting the particular sequences of Tables 1-4, but merely similar proteins and genes, then D1 and D2 are novelty attacking against said claims.

Independent Claims 28-30, 33-39 also restricted to particular Lyp gene or protein do not involve an inventive step, since the features disclosed are considered as obvious for a skilled person. Thus said claims are derivable from D1 and D2 in view of the common general knowledge of the skilled person.

The same applies to Claims 2,3 and 14.

**Item VI**

**Certain published documents (Rule 70.10)**

Application No Patent No	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
WO-A-9 849 317	5.11.98	27.04.98	28.04.97

SEQ. ID. NO. 1 of WO-A- 9 849 317 is more than 99.4% identical the sequences of the present application. Therefore said document is novelty destroying against Claims 1-39.

**Item VIII**

1. The formulation "splice variant" is not defined and thus includes inactive variants. Said inactive variants do not have the essential features of the invention such as having tyrosine phosphatase activity. Therefore said formulation is not unambiguously clear (Art. 6 PCT).
2. The stringency conditions are not defined in Claim 5 and thus said claim is open for interpretation (Art. 6 PCT).
3. Independent Claims 1, 13, 21, 22, 23, 28-30, 33-39 are not defined by the true

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/CA99/00038

technical features of the invention such as the amino acid and the nucleotide sequence. Therefore the claimed Lyp proteins and genes are open for interpretation (see Guidelines C III 4.4, 4.7, 4.7a)



# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>3206-165/PAR/tw</b>	<b>FOR FURTHER ACTION</b> <small>see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.</small>	
International application No. <b>PCT/CA 99/ 00038</b>	International filing date <i>(day/month/year)</i> <b>18/01/1999</b>	(Earliest) Priority Date <i>(day/month/year)</i> <b>16/01/1998</b>
Applicant  <b>HSC RESEARCH AND DEVELOPMENT LIMITED P. ....et al.</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☒ furnished subsequently to this Authority in written form.

☒ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☒ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☒ None of the figures.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/CA 99/ 00038

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:  
Remark: Although claims 34-39  
are directed to a method of treatment of the human/animal  
body, the search has been carried out and based on the alleged  
effects of the compound/composition.
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such  
an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all  
searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment  
of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report  
covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is  
restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/CA 99/00038

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 C12N15/55 C12N9/16 C12N15/11 C07K16/40 C12N5/12  
C12Q1/42

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 C12N C07K C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	MATTHEWS R. J. ET AL.: "Characterization of hematopoietic intracellular protein tyrosine phosphatases: Description of a phosphatase containing an SH2 domain and another enriched in proline-, glutamic acid-, serine-, and threonine-rich sequences." MOLECULAR AND CELLULAR BIOLOGY, vol. 12, no. 5, 1992, pages 2396-2405, XP002076841 see the whole document ---	5,6, 10-12, 16, 20-23, 25,27
X	WO 97 35019 A (GENENTECH INC) 25 September 1997 see the whole document --- -/--	5,10-12, 20-27

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

18 May 1999

Date of mailing of the international search report

01/06/1999

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Oderwald, H

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/CA 99/00038

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	WO 98 49317 A (PELES ELIOR ;ONRUST SUSAN (NZ); CLARY DOUGLAS (US); HUI TERANCE H) 5 November 1998 see the whole document ---	1-39
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# INTERNATIONAL SEARCH REPORT

Information on patent family members

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